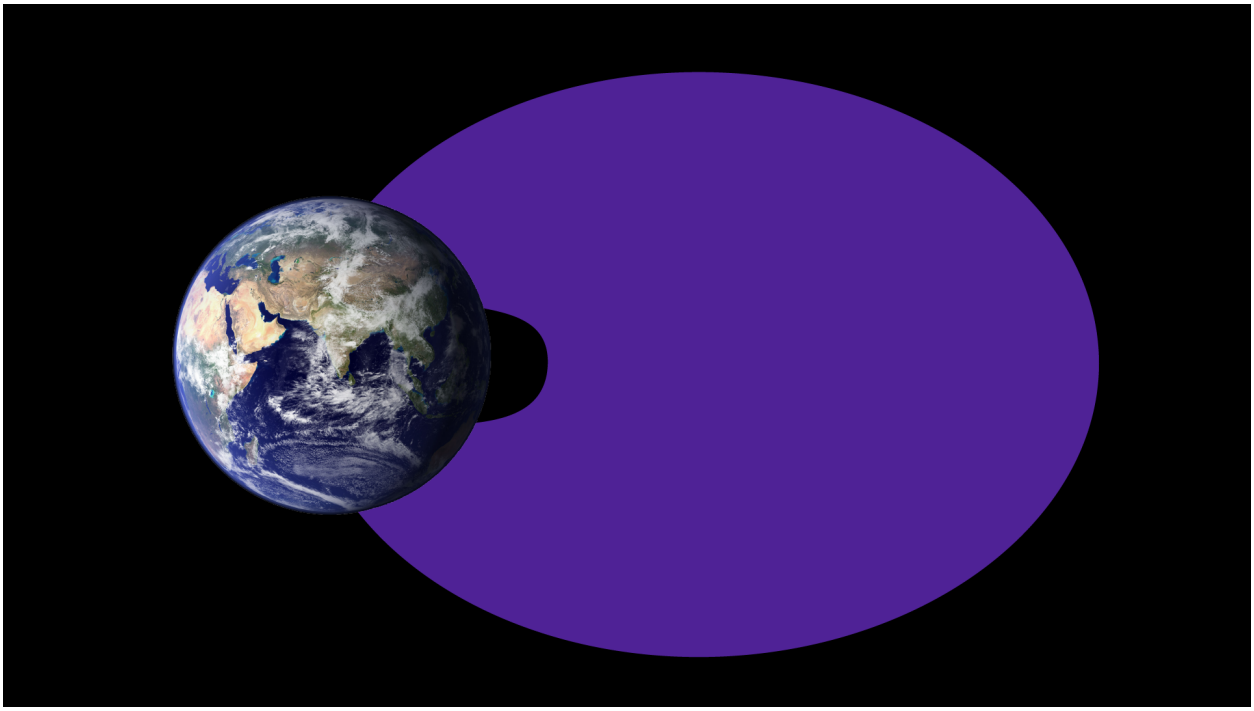
Science on the Hill: Why space weather matters

April 10, 2016



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Many people think of space as a silent, empty void and the sun as a distant source of light and heat. Not true. The sun and the Earth are connected in complex, intimate and sometimes dangerous ways.

Particles flowing from the sun to the Earth make up the “solar wind,” which sometimes blows as a gentle breeze and sometimes rages like a hurricane.

Huge explosions on the surface of the sun can hurl solar wind at the Earth at speeds of over two million miles per hour. The resulting space storms swell the Van Allen radiation belts that encircle our planet — threatening the satellites located in these two doughnut-shaped regions.

Those storms affect the surface of the Earth, too, interfering with global-positioning-based applications, military navigation systems, shortwave radio signals and radar, and also by inducing destructive electric current in pipelines and power lines.

One such storm shut down the grid in Quebec, Canada, in 1989, turning out the lights on millions of people in the Northeast U.S.

April 10, 2016 By Geoffrey Reeves - For the New Mexican.